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ABSTRACT

This paper examines research studies that have concluded that elementary school children can learn more difficult and abstract social studies concepts than are taught in the traditional social studies curriculum. Research studies that focus on constraints on cognition, the use of embedded concepts, and understanding knowledge restructuring and acquisition and learning frameworks are cited in order to emphasize that if early learning does not occur, the optimum teaching opportunity for some concepts may pass, creating situations in which it becomes difficult for students to learn new ideas or to think critically about old ones. Specific social studies concepts that research indicates children may be ready to learn are presented under the topics of: (1) social perspectives; (2) civic understanding; (3) time and space; and (4) economic understandings. A 37-item bibliography is included. (JHP)

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Conceptual Development in Social Studies

by

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Conceptual Development in Social Studies

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Social studies concepts, based as they are in human interactions, are complex. For a number of years, studies of concept development in social studies have assumed that a global restructuring perspective such as Piaget's was an appropriate framework for viewing concept development. These studies linked concept acquisition with Piagetian stage development and generally concluded that children moved globally--across domains--from concrete to abstract concept formation. These studies have frequently indicated that social studies concepts are late in development, and some researchers have suggested that children not be introduced to these concepts until such as time as they were mature enough to understand them. In history, for instance, some researchers concluded that concepts related to historical understanding did not develop until late adolescence (Hallam, 1974, 1979; Laville & Rosenzweig, 1982; Peel, 1967). Such findings have led to arguments against teaching history in the elementary years, and in a few cases, to saving it for the university. More generally, though, these studies have been used to support the

traditional "expanding horizons" or "expanding environments" curriculum.

As early as 1966, Rice concluded that children could learn more difficult and abstract social studies concepts much earlier than is expected in the traditional social studies curriculum (p. 3). More recent research in a number of fields bolsters that contention and further clarifies the nature of the constraints that might influence concept development in social studies. These approaches characterize cognitive development in terms of the restructuring of prior knowledge, and of the formation of "schemata" or "scripts" in specific cognitive domains (Carey, 1985; Gelman & Baillargeon, 1983; Mandler, 1983).

I would like to spend part of my time this afternoon looking at what these studies have to say about concept development, and then discussing some specific sorts of things that we think we know about some concepts that are important to the various disciplines that form the social studies.

Constraints on Cognition

One of the first things that current research calls into question is the notion of general stages of learning that apply across domains. While it appears that there may be some general principles of learning that we all appeal to when faced with an area out of our range of experience, or without logical causal

chains to appeal to, these tend to be the resort of the novice. Learner's tend, it appears, to use their knowledge of the structure particular to a domain when asked to learn something new within that domain. In other words, causal developmental factors--those things that influence concept attainment--depend to a large extent on the structure of what the learner knows and on how that knowledge is to be used in the world (Keil, 1986).

Wherever possible, researchers found, children resorted to some underlying theory to explain their world. Children show a marked inclination to move beyond surface features--the concrete representations characteristic of Piagetian stage theory--and to search for what Frank Keil describes as "chains" that lead back to an object's origin. (Keil, 1986). An example taken from Keil's work illustrates a child's attempt to move beyond these surface features. The child has been shown a picture of a porcupine, and then of a cactus, and told that the porcupine has been made to look exactly like a cactus. The child was then asked if the porcupine <u>was now</u> a cactus:

Kindergarten

Porcupine into Cactus

C: I think it's a porcupine still.

E. And why is it still a porcupine and not a cactus?

C: Because maybe it still moves and cactuses don't move.

E. OK. . .what they did is dyed it a yellowish-green and they injected with this stuff that makes it hibernate or got to sleep for years and then it looked like this. So what do you think?

C: It's a cactus. It looks like a cactus for years probably because they made it hibernate?

E. But do you think it's a cactus or do you think it's a porcupine?

C: Still a porcupine.

E: OK, why do you think it's still a porcupine? What makes it a porcupine?

C: Cause, they made it hibernate for years and after those years are all over, it will start waking up again.

E: So even though it looks like this now . . . you think it's a porcupine?

C: Yes.

(It should be noted that this is a tiny sample taken from a much longer study, and does not represent all the features of that study)

These chains tell the learner how and why an object came into being. When this theory is available to a child, he or she will use it to overrule evidence from more concrete surface features. It appears that learners assume--and look for--the presence of underlying structures that are causal in nature, and that as they become more knowledgable in a domain, they become increasingly dissatisfied with the notion that meaning--or a concept--is merely a set of characteristic features that happen to be associated with a class of things.

So, it would appear, then, that when confronted by an abstract, artificial construct, or arbitrary symbol arrangement--say, longitude and latitude--children would resort to surface characteristics. As children learn more about a domain, however, their knowledge appears to become structured in such a way that future learning in that domain changes and is more often governed by structural principles specific to that domain. In the area of history, for instance, my colleague, Christine Pappas, and I have found this type of 'theory generation' as children deal with how something becomes history. Younger children use 'pastness' as a characteristic feature. Something must have happened "before Mom and Dad were born," or "longer ago than I can remember." Fourth and sixth graders have a different theory that involves notions of change and significance. Something becomes history if it is 'significant' or if it caused a

change to occur (Levstik & Pappas, 1987). The younger children's difficulty in areas such as this have, in the past, been seen as a global stage constraint. More recent work indicates that it is more likely an absence of expertise in the relevant domain, not a global deficit.

Some people have taken this to mean that all children need in order to develop more mature concepts is to acquire information in a particular domain. This results from attending to only part of the research on concept development.

Embedded Concepts

The assumption that information acquisition is the key to concept attainment has led to the conclusion that information can be learned as easily and more expediently by memorization than by more time-consuming approaches such as "inquiry" or "discovery" methodologies. This appears to misconstrue the results of studies of domain-specific cognition, and is based in part on a confusion between natural and artificial concepts. Studies of domain-specific cognition have found, instead, that the core of concept attainment may be causal relationships. Meaning appears to derive from notions of cause and explanation. Natural concepts may need to be embedded in causal theories to have real power for the learner. It is causal relations that provide the power to make inductions and analogies. They provide coherence to the elements that make up a concept, and bind together the features that co-occur (Bruner,

1986; Keil, 1984; Nelson, 1986). Children have a much better time remembering the details of concepts when they have causal theories that tend to unify elements and explain how they interact with other things in the world.

We have found, for instance, that certain forms of discourse may facilitate cognition in history (Levstik, 1986; Levstik & Pappas, 1987). Narrative, particularly historical fiction, appears to provide a more potent causal theory for elementary children, and can provide a framework for interpreting historical information for other sources. One child, for example, used her reading of Sarah Bishop and The Witch of Blackbird Pond as a frame of reference for judging the Puritan communities she was studying in her social studies textbook (Levstik, in press):

> The Puritans didn't like Quakers or anybody else because they didn't believe their religion and so they thought everybody who wasn't their religion was a witch and they'd think the stupidest thing was a witch.
>
> I don't think Sarah and Kit could have done anything [to prevent being tried as witches]. Neither of them knew that they were going to be misunderstood. Kit didn't know she was going to meet Hanna Tupper, and that lady wasn't anything bad, and Sarah didn't

know that she was going to end up living in a cave. The animals had gotten hurt and she took care of them. [People didn't help them] because they'd be accused of being a witch . . . and they didn't want to get killed. When something really bad happens, too, people will blame it on someone!

Domain Specific Restructuring

Two explanations for domain-specific restructuring can be found in the research. The first position is described as a "weak restructuring" view, and has frequently been used by those investigating the novice/expert shift in problem-solving tasks (Chi, Glaser & Rees, 1982; Voss, Greene, Post & Penner, 1983). According to this view, the knowledge of novices and experts is organized differently. Experts' conceptual systems include more and different relations between concepts than do those of novices, and the knowledge of novices is organized more literally while the expert's is organized in terms of principles or abstractions that subsume these objects (Glaser, 1984).

The second type of knowledge restructuring is termed radical (Vosniadou & Brewer, 1987). In this view, novice/expert shifts reflect theory changes similar to those described by historians of science. The novice or expert has a different theory or paradigm--different in terms of its structure, in terms of the particular

domain concerned, and in terms of its individual concepts.

Researchers have argued that both types of restructuring may characterize knowledge acquisition. So, it may be that as children develop underlying causal theories, these theories may be challenged in such a way that a new theory emerges and affects further concept development. Once again, this may be more likely to occur if new learning is embedded in a meaningful framework.

There has been research, too, on the nature of a "meaningful" framework for learning. The traditional perspective has been to see cognition in terms of taxonomies or heirarchies of classes. However, a number of cognitive psychologists (Gelman & Baillargeon, 1983; Mandler, 1983; Nelson, 1986) have argued that both children and adults possess an alternative mode of conceptual organization based on spatio-temporal relations. The fundamental units in this type of organization are schemas, not categories. What is significant here is that even very young children appear to be very sensitive to, and use, this conceptual organization that emphasizes spatial and temporal relations over taxonomic schemes. In this view, children develop generalized event representations, or scripts, based on their experiences. These scripts specify obligatory features relevant to particular goals or circumstances. Research from this perspective has indicated that children show an understanding of a range of logical relationships, including

hypothetical and conditional relations, causal relations, temporal relations, adversative relations, much earlier than previously thought (Fraisse, 1963). Children, therefore, were able to develop causal schemas.

What is important here, too, is more than the fact that children are capable of earlier, and more complex, learning. Rather, it is that if the early learning does not occur, the optimum teaching time for some concepts may pass, making it much more difficult for students to entertain new ideas or to think critically about old ones. There appear to be crucial years for certain concepts in social studies--times when children are most receptive, and have an interest in emotionally powerful topics--long before these topics are introduced in the curriculum (Atwood, 1986; Skeel, et al., 1987).

Specific Findings in the Social Studies

What are some of these concepts and topics that children are ready to deal with in social studies? I have divided the research into several categories and call your attention to the NCSS Early Childhood/Elementary Task Force Report (1987) for additional explanation:

Social Perspective.

- Children are more open to diversity in the early elementary years (Stone, 1986). A fourth grader, for instance, is more likely to express interest in studying and visiting foreign countries than an eighth grader.
- Positive self-concepts, important in positively perceiving and judging social interactions, also form during these crucial early years (Stanley, 1985). Particular classroom environments seem to have an impact in this area. Teachers who appear to enjoy teaching, who include greater student-to-student interaction, shared decision-making and positive student-to-teacher interactions foster more positive self-concepts in their pupils (p. 77).
- Interest in and analysis of racial and ethnic differences begins early. Between the ages of six and nine, children begin to identify their own racial group as "better than the out-group" (Semaj, 1980, p. 76).

- Acquisition of concepts about racial and ethnic groups is complex, but there is evidence that early, planned and structured activities can result in more positive attitudes in children (Katz, 1976, p. 234).
- Elementary age children are already well aware of societal attitudes towards different groups, and can accurately report on social conventions regarding these groups (i.e. housing patterns, dating and marriage mores). Research also indicates that elementary children can think critically about these patterns where there is a sufficient experience base and active involvement in discussion and inquiry (Ragan and McAuley, 1973).

Civic Understanding. Research indicates that children are ready to deal with, and already have ideas about much of what falls in the category of civic understanding:

- As early as kindergarten, students are engaged in citizenship education, both covert and overt (Edwards, 1986).
- Political feelings, evaluations, and attachments form well before the child learns the relevant supporting information (Greenstein, 1969, p. 72).

- By eighth grade, basic orientations have already been acquired and political socialization is generally well-advanced by the end of elementary school (Hess & Torney, 1967, p. 220).
- Children have developed a sense of the need for consensus and majority rule in the democratic process by eighth grade. They have not recognized the role of debate, disagreement, and conflict in the operation of a democratic political system (Hess and Torney, 1967, p. 216).
- A developed sense of justice and law appear to be requisite to democratic citizenship (Kohlberg, 1976, p. 213). Particular types of classroom environments, including discussion in which students must actively think and communicate about another's reasoning appear to facilitate this type of growth (Berkowitz, 1981; Berkowitz and Gibbs, 1983).

Time and Space.

- Young children who are active participants in a highly structured and sequential series of geographic inquiries can learn complex analytic processes and concepts of geography (Crabtree, 1974; Muessig, 1987).

- Evidence indicates that children do possess complex spatial information and can abstract information from map symbols (Hewes, 1982; Hatcher, 1983; Park and James, 1983; Liben, Moore & Golbeck, 1982).
- Children can learn cardinal directions as early as kindergarten (Lanegran, Snowfield, and Laurent, 1970).
- The type of discourse used in history teaching appears to influence student interest. Children who encountered historical data in the form of biography and historical fiction exhibited interest in and enthusiasm for history and for further investigation in more traditional sources (Levstik, 1986).
- Historical and geographical understanding may not be linked to the developmental patterns associated with acquiring physical time concepts (Kennedy, 1985).

Economic Understanding. Armento indicates "that part of the role of social studies during elementary school years is to use children's informal learning as a basis for formal development of critical thinking skills and for the construction of useful and powerful economic knowledge" (1986).

- By age seven, children have formulated fairly accurate conceptions of work, wants, and scarcity and evidence the capability of developing a method for making decisions (Armento, 1986).
- Sutton found that children age 6-13 had more verbal facility with economic concepts with which they had some experience.
- Pictures and other concretizing tools can greatly benefit children with learning disabilities and those who have not enjoyed a broad variety of experience.

There is much that research has not told us about social studies. We lack a sufficient body of basic research in many areas, including research on teaching methodologies most appropriate for teaching specific concepts, skills and attitudes. These studies must take into account how children learn. There is also a need for further research on social studies for the exceptional child, both in terms of the exceptional child as learner, and in helping other children understand and interact with exceptional children. Little has been done to investigate appropriate content and methodology for preschool and kindergarten social studies, although Carolyn Edwards' book, Promoting Social and Moral Development in Young Children (1986) is a though-

provoking start in that direction.

One of the most important conclusions one can draw from the research on early learning in social studies, however, is the critical importance of the elementary years in laying the foundation for later, more mature understanding. There is reason to think that missing these crucial opportunities to build interest, to develop social perspectives and civic understanding, to introduce concepts from history and the social sciences, may make it more difficult for citizens of the 21st century to cope with their future.

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